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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,583	11/20/2001	Stephen Todd	EMC-033PUS	9738

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354ATURNPIKE STREET
SUITE 301A
CANTON, MA 02021-2714

EXAMINER

LESNIEWSKI, VICTOR D

ART UNIT	PAPER NUMBER
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2152

MAIL DATE	DELIVERY MODE
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07/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/989,583

Applicant(s)

TODD ET AL.

Examiner

Victor Lesniewski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19, 20 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19, 20 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/19/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 6/19/2007 has been placed of record in the file.
2. Claims 1, 9, 19, 20, and 26 have been amended.
3. The objection to claim 26 is withdrawn in view of the amendment.
4. Claims 1-17, 19, 20, and 24-26 are now pending.
5. The applicant's arguments with respect to claims 1-17, 19, 20, and 24-26 have been considered but are moot in view of the following new grounds of rejection.

Continued Examination Under 37 CFR 1.114

6. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous office action has been withdrawn pursuant to 37 CFR 1.114. The applicant's submission filed on 6/19/2007 has been entered.

Information Disclosure Statement

7. The IDS filed 6/19/2007 has been considered.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6, 8-11, 17, 19, 20 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aziz et al. (U.S. Patent Number 6,779,016), hereinafter referred to as Aziz, in view of Matsunami et al. (U.S. Patent Number 7,082,462), hereinafter referred to as Matsunami.

10. Aziz disclosed a scalable server farm wherein a control plane operates to control the allocation and monitoring of the storage resources in the system. In an analogous art, Matsunami disclosed a method for managing access to storage system logical units.

11. Concerning claims 1, 19, and 20, Aziz did not explicitly state the use of world-wide names as network addresses that identify equipment used by the customers. However, Matsunami sets forth a similar storage system which does utilize world-wide name (WWN) information. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Aziz by adding the ability to utilize world-wide names of equipment used by the customers as provided by Matsunami. Here the combination satisfies the need for reducing overhead in accessing disk units while realizing high-speed access to the disk units. See Matsunami, column 2, lines 1-4. This rationale also applies to those dependent claims utilizing the same combination.

12. Concerning claim 6, Aziz did not explicitly state enabling the administrator to select which data storage attributes are to be stored. However, Aziz does give an administrator control of the system via the control plane whereby the administrator can view and manipulate the data storage attributes. In this type of environment, it was well known in the art at the time of the applicant's invention that a user with administrative access may decide which attributes are to be stored and make other such administrative decisions in the operation of the system. Thus, it

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would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Aziz by adding the ability to enable the administrator to select which data storage attributes are to be stored.

13. Concerning claims 24-26, Aziz did not explicitly state storing the customer information in a table wherein each entry in the table comprises three fields. However, Aziz does teach the usage of and the storage of customer information that includes an indication of an allocated hardware resource, addresses of the equipment associated with the allocated hardware resource, and an indication of the customer associated with the allocated hardware resource. See the line citations in the discussion of claim 1 below. Since Aziz teaches the usage and storage of these items, it would have been simply a design choice as to how to store them in the database. In addition, Matsunami also teaches the storage of similar information in various fields of a table. For all these reasons, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the system of Aziz by adding the ability to store the customer information in a table wherein each entry in the table comprises three fields.

14. All lines cited below refer to Aziz unless otherwise noted.

15. Thereby, the combination of Aziz and Matsunami discloses:

- <Claims 1, 19, and 20>

A method of managing hardware resources, comprising: providing an executable software module configured to communicate with the hardware resources (column 4, line 54 through column 5, line 8), the software module implementing a common interface to allow a monitoring device to be implemented independent of the hardware resources (column 4, line 64 through column 5, line 8); operating the executable software module

to cause the executable software module to return information to the monitoring device about the hardware resources (column 4, line 54 through column 5, line 8), wherein the information includes hardware configuration information associated with the hardware resources (column 13, lines 16-22) and customer information associated with customers of the hardware resources, wherein the customer information includes world-wide names of equipment used by the customers, allocation information indicative of allocations of the hardware resources to the customers and billable event information for use by a billing application to bill the customers and indicative of usage of the hardware resources by the customers (column 16, lines 23-46 and regarding WWNs, Matsunami, column 6, lines 43-52); and storing the hardware configuration information and the customer information in a database (column 16, lines 1-15).

- <Claim 2>

The method of claim 1, wherein the hardware resources comprise data storage resources (column 4, lines 23-41).

- <Claim 3>

The method of claim 2, wherein the data storage resources reside in a datacenter controlled by a storage service provider (column 4, line 54 through column 5, line 8).

- <Claim 4>

The method of claim 3, further comprising presenting the hardware configuration information and the customer information to an administrator of the storage service provider (column 5, lines 3-8).

- <Claim 5>

The method of claim 4, wherein the hardware configuration information comprises data storage resource attributes (column 13, lines 16-22).

- <Claim 6>

The method of claim 5, further comprising enabling the administrator to select, for a given data storage resource, which of the data storage attributes are to be stored in the database (obviousness as discussed above).

- <Claim 8>

The method of claim 4, further comprising: generating a directory of the hardware resources; and storing the directory in the database (column 10, lines 58-67).

- <Claim 9>

The method of claim 8, wherein the the common interface comprises a set of methods (column 13, lines 16-36).

- <Claim 10>

The method of claim 9, wherein the methods include a first method that, when called, causes the executable software module to identify a type of hardware resource with which the executable software module is configured to communicate, and a second method that, when called, causes the software executable module to identify any hardware resources with which the executable software is configured to communicate (column 13, lines 16-36).

- <Claim 11>

The method of claim 10, wherein the methods further include a third method that, when called, causes the executable software module to poll the hardware resources identified by the executable software module to provide attribute information associated with the hardware resources (column 13, lines 16-36).

- <Claim 17>

The method of claim 5, further comprising: adding a new data storage resource to the datacenter (column 8, lines 48-65); and placing the new data storage resource in a directory of hardware resources (column 11, lines 12-28).

- <Claims 24, 25, and 26>

The method of claim 1 wherein storing comprises storing the customer information in a table, an entry in the table comprising: a first field indicating an allocated hardware resource; a second field storing the addresses of the equipment associated with the allocated hardware resource in the first field; and a third field indicating the customer associated with the allocated hardware resource in the first field (column 16, lines 1-15 and 23-46; obviousness as discussed above; and Matsunami, column 11, line 63 through column 12, line 7).

Since the combination of Aziz and Matsunami discloses all of the above limitations, claims 1-6, 8-11, 17, 19, 20 and 24-26 are rejected.

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16. Claims 7 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aziz in view of Matsunami, as applied above, further in view of Nine et al. (U.S. Patent Number 6,560,611), hereinafter referred to as Nine.

17. The combination of Aziz and Matsunami disclosed a scalable server farm wherein a control plane operates to control the allocation and monitoring of the storage resources in the system as well as to manage access to the logical units in the storage system. In an analogous art, Nine disclosed a network monitoring system for monitoring all services and conditions on various networks.

18. Concerning claim 7, although the combination of Aziz and Matsunami did not explicitly state the use of an executable software module with Java, Nine states the use of Java in his system. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Aziz and Matsunami by adding the ability to utilize Java as provided by Nine. Here the combination satisfies the need for more efficient network monitoring. See Nine, column 1, lines 47-55.

19. Concerning claims 12 and 13, although the combination of Aziz and Matsunami did not explicitly state the use of XML to provide polling results, Nine states the use of XML in his system. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Aziz and Matsunami by adding the ability to utilize XML as provided by Nine. Again the combination satisfies the need for more efficient network monitoring. See Nine, column 1, lines 47-55.

20. Concerning claim 14, although the combination of Aziz and Matsunami did not explicitly state returning a list of services to the user, Nine states this feature in his system. It would have

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been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Aziz and Matsunami by adding the ability to return a list of services to the user as provided by Nine. Again the combination satisfies the need for more efficient network monitoring. See Nine, column 1, lines 47-55.

21. The above rationale also applies to those dependent claims utilizing the same combination.

22. Thereby, the combination of Aziz, Matsunami, and Nine discloses:

- <Claim 7>

The method of claim 1, wherein the executable software module comprises JAVA classes (Nine, column 9, lines 55-65).

- <Claim 12>

The method of claim 11, wherein results of the polling are provided in XML format (Nine, column 3, lines 37-48).

- <Claim 13>

The method of claim 11, wherein the results of the polling are provided in a format other than XML and the executable software module performing the polling converts the results of the polling to XML format (Nine, column 3, lines 37-48).

Furthermore, it is well known in the art to convert data into an alternate format in a network when needed.

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- <Claim 14>

The method of claim 11, wherein the methods further comprise a fourth method that, when called, causes the executable software module to return a list of services and associated parameters (Nine, column 5, line 60 through column 6, line 8).

- <Claim 15>

The method of claim 14, wherein the methods further comprise a fifth method that, when called, causes the executable software module to execute a requested one of the services on a list of services (Nine, column 6, lines 9-20).

- <Claim 16>

The method of claim 15, wherein making a call to the fifth method comprises specifying values of parameters associated with the requested one of the services (Nine, column 6, lines 20-25).

Since the combination of Aziz, Matsunami, and Nine discloses all of the above limitations, claims 7 and 12-16 are rejected.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor Lesniewski whose telephone number is 571-272-3987. The examiner can normally be reached on Monday through Thursday.

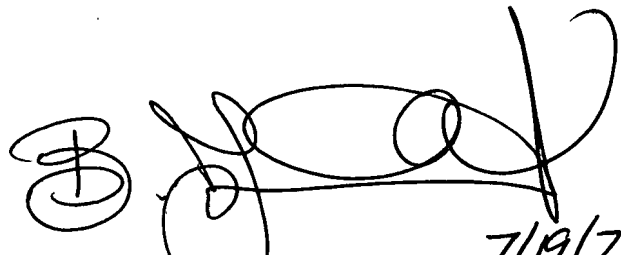
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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SUPERVISORY PATENT EXAMINER
7/19/17